Fig. 1: Verification of differential expression of HIF3alpha splice variant 1 by quantitative RT-PCR

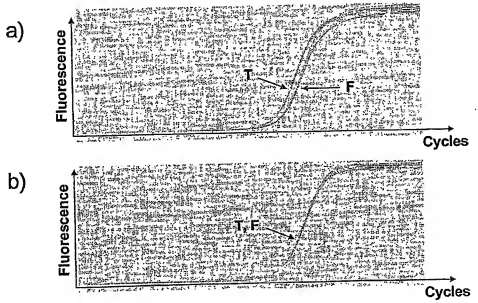

Fig. 2: Verification of differential expression of HIF3alpha splice variant 1 by quantitative RT-PCR

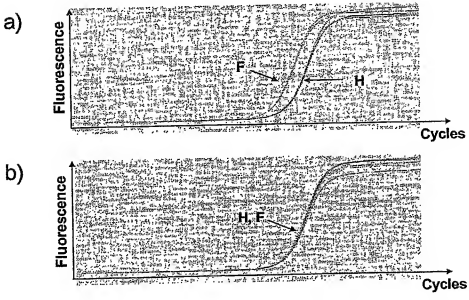

Fig. 3: Verification of differential expression of HIF3alpha splice variant 2 by quantitative RT-PCR

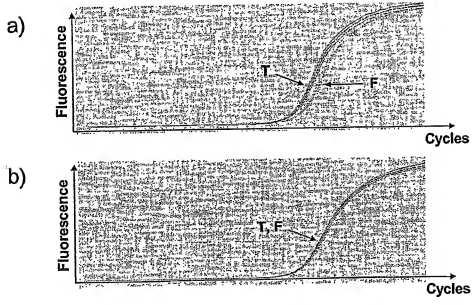

Fig. 4: Verification of differential expression of HIF3alpha splice variant 3 by quantitative RT-PCR

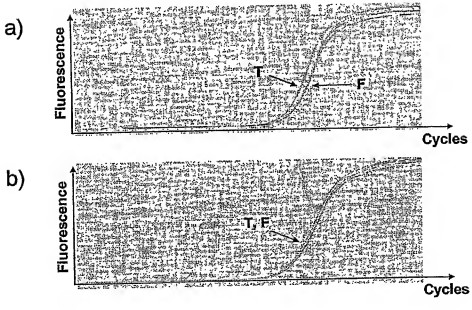

Fig. 5: Verification of differential expression of HIF3alpha splice variant 5 by quantitative RT-PCR

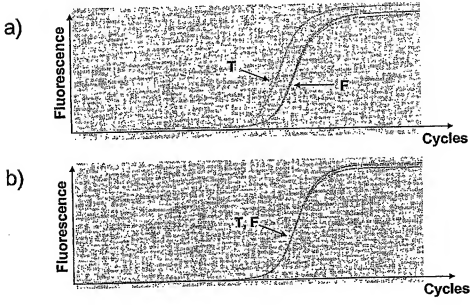

Fig. 6: SEQ ID NO. 1

Length: 289 bp

```
  1 CATTTATGAG AGTTTATTCA TTCAAAACAT ATTTACTGTC GGGCGTGGTG
 51 GTTCATACCA GTAATCCCAG CACTTTGGGA GGCCAAGGCA GGTGGATCGC
101 TTGAACTCAG GAGTTCAAGA CCAGCCTGGG CAACATGGTG GAACTTCGTC
151 TCTACAAAAC ATATAAACAT CAGCCAGGCA TGATGGCACA TAGCTGCAGT
201 CCCAGCTACT TGTGGGAGCT GAAGTAGGAG GATCACTTGA GCCCAGGAGG
251 TCGAGGCTGT GGTGAGCTGT GTTTGTGCCA CTGCACTCC
```

Fig. 7: **Alignment of SEQ ID NO. 1 with human HIF3alpha splice variant sv1 cDNA, SEQ ID NO. 6**

```
 289 GGAGTGCAGTGGCACAAACACAGCTCACCACAGCCTCGACCTCCTGGGCT 240
     ||||||||||||||||||||||||||||||| ||||||||||||||||||||
1421 GGAGTGCAGTGGCACAAACACAGCTCACCGCAGCCTCGACCTCCTGGGCT 1470

 239 CAAGTGATCCTCCTACTTCAGCTCCCACAAGTAGCTGGGACTGCAGCTAT 190
     ||||||||||||||||||||||||||||||||||||||||||||||||||||
1471 CAAGTGATCCTCCTACTTCAGCTCCCACAAGTAGCTGGGACTGCAGCTAT 1520

 189 GTGCCATCATGCCTGGCTGATGTTTATATGTTTTGTAGAGACGAAGTTCC 140
     |||||||||||||||||||||||||||||||||||||||||||| ||| |
1521 GTGCCATCATGCCTGGCTGATGTTTATATGTTTTGTAGAGACGAGGTTTC 1570

 139 ACCATGTTGCCCAGGCTGGTCTTGAACTCCTGAGTTCAAGCGATCCACCT 90
     ||||||||||||||||||||||||||||||||||||||||||||||||||||
1571 ACCATGTTGCCCAGGCTGGTCTTGAACTCCTGAGTTCAAGCGATCCACCT 1620

  89 GCCTTGGCCTCCCAAAGTGCTGGGATTACTGGTATGAACCACCACGCCCG 40
     ||||||||||||||||||||||||||||||||||||||||||||||||||||
1621 GCCTTGGCCTCCCAAAGTGCTGGGATTACTGGTATGAACCACCACGCCCG 1670

  39 ACAGTAAATATGTTTTGAATGAATAAACTCTCATAAATG 1
     |||||||||||||||||||||||||||||||||||||||
1671 ACAGTAAATATGTTTTGAATGAATAAACTCTCATAAATG 1709
```

Figure 8: SEQ ID NO. 2: amino acid sequence of human HIF3alpha, splice variant 1

Length: 450 aa

```
  1 MRPAAGAARR PRCCTSWLTR CPSPAASAPT WTRPLSCASP SATCACTASA
 51 PQLELIGHSI FDFIHPCDQE ELQDALTPQQ TLSRRKVEAP TERCFSLRMK
101 STLTSRGRTL NLKAATWKVL NCSGHMRAYK PPAQTSPAGS PDSEPPLQCL
151 VLICEAIPHP GSLEPPLGRG AFLSRHSLDM KFTYCDDRIA EVAGYSPDDL
201 IGCSAYEYIH ALDSDAVSKS IHTLLSKGQA VTGQYRFLAR SGGYLWTQTQ
251 ATVVSGGRGP QSESIVCVHF LISQVEETGV VLSLEQTEQH SRRPIQRGAP
301 SQKDTPNPGD SLDTPGFRIL AFLHPPSLSE AALAADPRRF CSPDLRRLLG
351 PILDGASVAA TPSTPLATRH PQSPLSADLP DELPVGTENV HRLFTSGKDT
401 EAVETDLDIA QDPSTPLLNL NEPLGFHFVT QSGVQWHKHS SPQPRPPGLK
```

Fig. 9: SEQ ID NO. 3:
amino acid sequence of human HIF3alpha, splice variant 2

Length: 342 aa

```
  1 MALGLQRARS TTELRKEKSR DAARSRRSQE TEVLYQLAHT LPFARGVSAH
 51 LDKASIMRLT ISYLRMHRLC AAGEWNQVGA GGEPLDACYL KALEGFVMVL
101 TAEGDMAYLS ENVSKHLGLS QLELIGHSIF DFIHPCDQEE LQDALTPQQT
151 LSRRKVEAPT ERCFSLRMKS TLTSRGRTLN LKAATWKVLN CSGHMRAYKP
201 PAQTSPAGSP DSEPPLQCLV LICEAIPHPG SLEPPLGRGA FLSRHSLDMK
251 FTYCDDRIAE VAGYSPDDLI GCSAYEYIHA LDSDAVSKSI HTLLSKGQAV
301 TGQYRFLARS GGYLWTQTQA TVVSGGRGPQ SESIVCVHFL IR
```

Fig. 10: SEQ ID NO. 4: amino acid sequence of human HIF3alpha, splice variant 3

Length: 632 aa

```
  1 MALGLQRARS TTELRKEKSR DAARSRRSQE TEVLYQLAHT LPFARGVSAH
 51 LDKASIMRLT ISYLRMHRLC AAGEWNQVGA GGEPLDACYL KALEGFVMVL
101 TAEGDMAYLS ENVSKHLGLS QLELIGHSIF DFIHPCDQEE LQDALTPQQT
151 LSRRKVEAPT ERCFSLRMKS TLTSRGRTLN LKAATWKVLN CSGHMRAYKP
201 PAQTSPAGSP DSEPPLQCLV LICEAIPHPG SLEPPLGRGA FLSRHSLDMK
251 FTYCDDRIAE VAGYSPDDLI GCSAYEYIHA LDSDAVSKSI HTLLSKGQAV
301 TGQYRFLARS GGYLWTQTQA TVVSGGRGPQ SESIVCVHFL ISQVEETGVV
351 LSLEQTEQHS RRPIQRGAPS QKDTPNPGDS LDTPGPRILA FLHPPSLSEA
401 ALAADPRRFC SPDLRRLLGP ILDGASVAAT PSTPLATRHP QSPLSADLPD
451 ELPVGTENVH RLFTSGKDTE AVETDLDIAQ DADALDLEML APYISMDDDF
501 QLNASEQLPR AYHRPLGAVP RPRARSFHGL SPPALEPSLL PRWGSDPRLS
551 CSSPSRGDPS ASSPMAGARK RTLAQSSEDE DEGVELLGVR PPKRSPSPEH
601 ENFLLFPLSL VCWGINGILW PSLPSWLKPT VL
```

Fig. 11: SEQ ID NO. 5: amino acid sequence of human HIF3alpha, splice variant 5

Length: 648 aa

```
  1 MRLTISYLRM HRLCAAGEWN QVGAGGEPLD ACYLKALEGF VMVLTAEGDM
 51 AYLSENVSKH LGLSQLELIG HSIFDFIHPC DQEELQDALT PQQTLSRRKV
101 EAPTERCFSL RMKSTLTSRG RTLNLKAATW KVLNCSGHMR AYKPPAQTSP
151 AGSPDSEPPL QCLVLICEAI PHPGSLEPPL GRGAFLSRHS LDMKFTYCDD
201 RIAEVAGYSP DDLIGCSAYE YIHALDSDAV SKSIHTLLSK GQAVTGQYRF
251 LARSGGYLWT QTQATVVSGG RGPQSESIVC VHFLISQVEE TGVVLSLEQT
301 EQHSRRPIQR GAPSQKDTPN PGDSLDTPGP RILAFLHPPS LSEAALAADP
351 RRFCSPDLRR LLGPILDGAS VAATPSTPLA TRHPQSPLSA DLPDELPVGT
401 ENVHRLPTSG KDTEAVETDL DIAQDADALD LEMLAPYISM DDDFQLNASE
451 QLPRAYHRPL GAVPRPRARS FHGLSPPALE PSLLPRWGSD PRLSCSSPSR
501 GDPSASSPMA GARKRTLAQS SEDEDEGVEL LGVRPPKRSP SPEHENFLLF
551 PLSLSFLLTG GPAPGSLQDP TELTQFLLSV LSFPILDPYP LGCAAPGLHA
601 SPFSLPTISV PQNPLHFPPQ PSRHALTLTL PHMPGAPGAP SPLGWFAI
```

Fig. 12: SEQ ID NO. 6: nucleotide sequence of human HIF3alpha cDNA, splice variant 1

Length: 1709 bp

```
   1 ACTCGTAACT CGCACCCGGG TCCTGGCTGC ACCGCATCCC CTCCTGCACC
  51 CCCTGGATGG CCCTTCAGCC AACGGGGGCC TGGGCGATGG TCGACCACGG
 101 AGCTGCGCAA GGAAAAGTCC CGGGATGCGG CCCGCAGCCG GCGCAGCCAG
 151 GAGACCGAGG TGCTGTACCA GCTGGCTCAC ACGCTGCCCT CGCCCGCGGG
 201 CGTCAGCGCC CACCTGGACA AGGCCTCTAT CATGCGCCTC ACCATCAGCT
 251 ACCTGCGCAT GCACCGCCTC TGCGCCGCAG CTGGAGCTCA TTGGACACAG
 301 CATCTTTGAT TTCATCCACC CCTGTGACCA AGAGGAGCTT CAGGACGCCC
 351 TGACCCCCCA GCAGACCCTG TCCAGGAGGA AGGTGGAGGC CCCCACGGAG
 401 CGGTGCTTCT CCTTGCGCAT GAAGAGTACA CTCACCAGCC GCGGGCGCAC
 451 CCTCAACCTC AAGGCGGCCA CCTGGAAGGT GCTGAACTGC TCTGGACATA
 501 TGAGGGCCTA CAAGCCACCT GCGCAGACTT CTCCAGCTGG CAGCCCTGAC
 551 TCAGAGCCCC CGCTGCAGTG CCTGGTGCTC ATCTGCGAAG CCATCCCCCA
 601 CCCAGGCAGC CTGGAGCCCC CACTGGGCCG AGGGGCTTTC CTCAGCCGCC
 651 ACAGCCTGGA CATGAAGTTC ACCTACTGTG ACGACAGGAT TGCAGAAGTG
 701 GCTGGCTATA GTCCCGATGA CCTGATCGGC TGTTCCGCCT ACGAGTACAT
 751 CCACGCGCTG GACTCCGATG CGGTCAGCAA GAGCATCCAC ACCTTGCTGA
 801 GCAAGGGCCA GGCAGTAACA GGGCAGTATC GCTTCCTGGC CCGGAGTGGT
 851 GGCTACCTGT GGACCCAGAC CCAGGCCACA GTGGTGTCAG GGGGACGGGG
 901 CCCCCAGTCG GAGAGTATCG TCTGTGTCCA TTTTTTAATC AGCCAGGTGG
 951 AAGAAACCGG AGTGGTGCTG TCCCTGGAGC AAACGGAGCA ACACTCTCGC
1001 AGACCCATTC AGCGGGCGC CCCCTCTCAG AAGGACACCC CTAACCCTGG
1051 GGACAGCCTT GACACCCCTG GCCCCCGGAT CCTTGCCTTC CTGCACCCGC
1101 CTTCCCTGAG CGAGGCTGCC CTGGCCGCTG ACCCCCGCCG TTTCTGCAGC
1151 CCTGACCTCC GTCGCCTCCT GGGACCCATC CTGGATGGGG CTTCAGTAGC
1201 AGCCACTCCC AGCACCCCGC TGGCCACACG GCACCCCCAA AGTCCTCTTT
1251 CGGCTGATCT CCCAGATGAA CTACCTGTGG GCACCGAGAA TGTGCACAGA
1301 CTCTTCACCT CCGGGAAAGA CACTGAGGCA GTGGAGACAG ATTTAGATAT
1351 AGCTCAGGAC CCCAGCACCC CACTCCTGAA CCTGAATGAG CCCCTGGGTT
1401 TTCACTTTGT CACCCAGTCT GGAGTGCAGT GGCACAAACA CAGCTCACCG
1451 CAGCCTCGAC CTCCTGGGCT CAAGTGATCC TCCTACTTCA GCTCCCACAA
1501 GTAGCTGGGA CTGCAGCTAT GTGCCATCAT GCCTGGCTGA TGTTTATATG
1551 TTTTGTAGAG ACGAGGTTTC ACCATGTTGC CCAGGCTGGT CTTGAACTCC
1601 TGAGTTCAAG CGATCCACCT GCCTTGGCCT CCCAAAGTGC TGGGATTACT
1651 GGTATGAACC ACCACGCCCG ACAGTAAATA TGTTTTGAAT GAATAAACTC
1701 TCATAAATG
```

Fig. 13: SEQ ID NO. 7: nucleotide sequence of human HIF3alpha cDNA, splice variant 2

Length: 2239 bp

```
   1 TGGGAGCGGC GACTGGCGAG CCATGGCGCT GGGGCTGCAG CGCGCAAGGT
  51 CGACCACGGA GCTGCGCAAG GAAAAGTCCC GGGATGCGGC CCGCAGCCGG
 101 CGCAGCCAGG AGACCGAGGT GCTGTACCAG CTGGCTCACA CGCTGCCCTT
 151 CGCCCCGGGC GTCAGCGCCC ACCTGGACAA GGCCTCTATC ATGCGCCTCA
 201 CCATCAGCTA CCTGCGCATG CACCGCCTCT GCGCCGCAGG GGAGTGGAAC
 251 CAGGTGGGAG CAGGGGGAGA ACCACTGGAT GCCTGCTACC TGAAGGCCCT
 301 GGAGGCCTTC GTCATGGTGC TCACCGCCGA GGGAGACATG GCTTACCTGT
 351 CGGAGAATGT CAGCAAACAC CTGGGCCTCA GTCAGCTGGA GCTCATTGGA
 401 CACAGCATCT TTGATTTCAT CCACCCCTGT GACCAAGAGG AGCTTCAGGA
 451 CGCCCTGACC CCCCAGCAGA CCCTGTCCAG GAGGAAGGTG GAGGCCCCCA
 501 CGGAGCGGTG CTTCTCCTTG CGCATGAAGA GTACGCTCAC CAGCCGCGGG
 551 CGCACCCTCA ACCTCAAGGC GGCCACCTGG AAGGTGCTGA ACTGCTCTGG
 601 ACATATGAGG GCCTACAAGC CACCTGCGCA GACTTCTCCA GCTGGGAGCC
 651 CTGACTCAGA GCCCCCGCTG CAGTGCCTGG TGCTCATCTG CGAAGCCATC
 701 CCCCACCCAG GCAGCCTGGA GCCCCCACTG GGCCGAGGGG CCTTCCTCAG
 751 CCGCCACAGC CTGGACATGA AGTTCACCTA CTGTGACGAC AGGATTGCAG
 801 AAGTGGCTGG CTATAGTCCC GATGACCTGA TCGGCTGTTC CGCCTACGAG
 851 TACATCCACG CGCTGGACTC CGACGCGGTC AGCAAGAGCA TCCACACCTT
 901 GCTGAGCAAG GGCCAGGCAG TAACAGGGCA GTATCGCTTC CTGGCCGGA
 951 GTGGTGGCTA CCTGTGGACC CAGACCCAGG CCACAGTGGT GTCAGGGGGA
1001 CGGGGCCCCC AGTCGGAGAG TATCGTCTGT GTCCATTTTT TAATCAGGTA
1051 AGCAGGAGGA GGGGCTGGGG TGGCTGTGTG TGGGCCTGAT CTGCATGTGT
1101 GGACAGGTGT GTGTGTGTGT GTGTGTGTGT GTGTGTGTGT GCGTATGAGC
1151 ATGCATGTGT ATCATGCATA AGTGTATGTG AGGGAGTGTG CACGTGTACA
1201 CATATGAGGA ATGTGTGTCA CCATGTAAAT GCCGGTGTGT GTGTCTGCAT
1251 GGACACAGGT ATGTGTATGG GTGTGTAGAC TGTTAATTTT TTTTTTTTT
1301 TTTTTTTGCG TGAACCTCTG CTTAAGTGGA TTGTTAATTC AAATTAGAAA
1351 GGGGTCTTTA TTTGGCCTGG CATGGTGGCT CATGCCTGTA ATCCTAGCAC
1401 TTTGGGAGGC TGAGGTGGGC GGATTGCCTG AGCTCAGGAG TTCGAAACCA
1451 GCCTGGCCAA CATGACGAAA TGCTGTTTCT GCTAATAATA CCAAAAATTA
1501 GCCGGGTGTG GTGACACATG CCTGTGATCC CAACTACTCG GGAGGCTGAG
1551 GCACGAGAAT CATTAGAACC CGGGTGGTGG AGGCTGCAGT GAGCCGAGAT
1601 TGCGTCAGTG CACTCTGGCC TCGGCAACAG AGCGAGACTC TGTCTCAAAC
1651 AAACAAACAA ACAAACAAAA GGACTCTATA TTCAAGTTAA AATAAGAAGT
1701 GTAACAGAAT CATGGGGTCT TTTTTGCTTT TTAAATTTTG ATGTGGCTCA
1751 CGCCTGTAAA TCCCAAGGTG TTGGGATTAC AGGCGTGAGC CACTGCACCC
1801 GGCCCATGTT GTGGTTTATA TCAGTAGTTC CTTTGTAAAT AGTGAACAGT
1851 ATTCCATGGT ATGAATAGAG CACAGTTTTT TTTTTTATCC ATTCACCAGT
1901 TAGAAGACAT TGGGCTGTTT CCAAGTTTGG GTGATTACAA AAAACAGCTA
1951 CTGTAAACAT TCTCATACAA GATTTTATGA GATCACATGT TTTCATTTCT
2001 CTTGGGTAAA CAGCTAGGAT TGGAATGGAT GGGTTATATA GTAAGTGTAT
2051 ATTTAATCTA AGAAACTGCC ATGGCTGGGC ACAGTGGCTC ACGCCTGTAA
```

```
2101 TCCCAGTACT TTGGGAAGCC AAGGAAGGAG GATGACTAGA GCCTCTGAGG
2151 TGAAGACCAG CCTGGGCAAA GTGGTTAAGA CTCAACCGCA AAAAAAGAAA
2201 AACAGAAAAC CTGAAAACAA ACCAAAAAAA AAAAAAAAA
```

Figure 14: SEQ ID NO. 8: nucleotide sequence of human HIF3alpha cDNA, splice variant 3

Length: 2082 bp

```
   1 GACTGGCGAG CCATGGCGCT GGGGCTGCAG CGCGCAAGGT CGACCACGGA
  51 GCTGCGCAAG GAAAAGTCCC GGGMTGCGGC CCGCAGCCGG CGCAGCCAGG
 101 AGACCGAGGT GCTGTACCAG CTGGCTCACA CGCTGCCCTT CGCCCGCGGC
 151 GTCAGCGCCC ACCTGGACAA GGCCTCTATC ATGCGCCTCA CCATCAGCTA
 201 CCTGCGCATG CACCGCCTCT GCGCCGCAGG GGAGTGGAAC CAGGTGGGAG
 251 CAGGGGGAGA ACCACTGGAT GCCTGCTACC TGAAGGCCCT GGAGGGCTTC
 301 GTCATGGTGC TCACCGCCGA GGGAGACATG GCTTACCTGT CGGAGAATGT
 351 CAGCAAACAC CTGGGCCTCA GTCAGCTGGA GCTCATTGGA CACAGCATCT
 401 TTGATTTCAT CCACCCCTGT GACCAAGAGG AGCTTCAGGA CGCCCTGACC
 451 CCCCAGCAGA CCCTGTCCAG GAGGAAGGTG GAGGCCCCCA CGGAGCGGTG
 501 CTTCTCCTTG CGCATGAAGA GTACGCTCAC CAGCCGCGGG CGCACCCTCA
 551 ACCTCAAGGC GGCCACCTGG AAGGTGCTGA ACTGCTCTGG ACATATGAGG
 601 GCCTACAAGC CACCTGCGCA GACTTCTCCA GCTGGGAGCC CTGACTCAGA
 651 GCCCCCGCTG CAGTGCCTGG TGCTCATCTG CGAAGCCATC CCCCACCCAG
 701 GCAGCCTGGA GCCCCCACTG GGCCGAGGGG CCTTCCTCAG CCGCCACAGC
 751 CTGGACATGA AGTTCACCTA CTGTGACGAC AGGATTGCAG AAGTGGCTGG
 801 CTATAGTCCC GATGACCTGA TCGGCTGTTC CGCCTACGAG TACATCCACG
 851 CGCTGGACTC CGACGCGGTC AGCAAGAGCA TCCACACCTT GCTGAGCAAG
 901 GGCCAGGCAG TAACAGGGCA GTATCGCTTC CTGGCCCGGA GTGGTGGCTA
 951 CCTGTGGACC CAGACCCAGG CCACAGTGGT GTCAGGGGGA CGGGGCCCCC
1001 AGTCGGAGAG TATCGTCTGT GTCCATTTTT TAATCAGCCA GGTGGAAGAG
1051 ACCGGAGTGG TGCTGTCCCT GGAGCAAACG GAGCAACACT CTGCAGACC
1101 CATTCAGCGG GGCGCCCCCT CTCAGAAGGA CACCCCTAAC CCTGGGGACA
1151 GCCTTGACAC CCCTGGCCCC CGGATCCTTG CCTTCTGCA CCGCCTTCC
1201 CTGAGCGAGG CTGCCCTGGC CGCTGACCCC CGCCGTTTCT GCAGCCCTGA
1251 CCTCCGTCGC CTCCTGGGAC CCATCCTGGA TGGGGCTTCA GTAGCAGCCA
1301 CTCCCAGCAC CCGCTGGCC ACAGGGCACC CCCAAAGPCC TCTTTCGGCT
1351 GATCTCCCAG ATGAACTACC TGTGGGCACC GAGAATGTGC ACAGACTCTT
1401 CACCTCGGGG AAAGACACTG AGGCAGTGGA GACAGATTTA GATATAGCTC
1451 AGGATGCTGA TGCTCTGGAT TTGGAGATGC TGGCCCCCTA CATCTCCATG
1501 GATGATGACT TCCAGCTCAA CGCCAGCGAG CAGCTACCCA GGGCCTACCA
1551 CAGACCTCTG GGGGCTGTCC CCCGGCCCCG TGCTCGGAGC TTCCATGGCC
1601 TGTCACCTCC AGCCCTTGAG CCCTCCCTGC TACCCCGCTG GGGGAGTGAC
1651 CCCCGGCTGA GCTGCTCCAG CCCTTCCAGA GGGGACCCCT CAGCATCCTC
1701 TCCCATGGCT GGGGCTCGGA AGAGGACCCT GGCCCAGAGC TCAGAGGACG
1751 AGGACGAGGG AGTGGAGCTG CTGGGAGTGA GACCTCCCAA AAGGTCCCCC
1801 AGCCCAGAAC ACGAAAACTT TCTGCTCTTT CCTCTCAGCC TGGTGTGTTG
1851 GGGGATTAAT GGGATTCTCT GGCCCTCATT ACCTAGCTGG CTTAAACCTA
1901 CTGTTTTATA GATAGGAAAC CAGAGAGGGG CAGGGGCTGG TTGAGGGTCA
1951 TACAGAAAGT CAGTGGGCCA GCTGAGACTA AAGCCTGATC TTCTAGTTTC
2001 ACTAATGGGT ATTAAAAACC TCTGCAGTGA ACTGAGATTG CGCCACTGCA
2051 CCCCAGCATG AGCGACAGAA TGGGACCTTG TC
```

Figure 15: SEQ ID NO. 9: nucleotide sequence of human HIF3alpha cDNA, splice variant 5

Length: 2595 bp

```
   1 AACTCGCACC CGGGTCCTGG CTGCACCGCA TCCCCTCCTG CACCCCCTGG
  51 ATGGCCCTTC AGCCAACGGG GGCCTGGGCG ATGGTCGACC ACGGAGCTGC
 101 GCAAGGAAAA GTCCCGGGAT GCGGCCGCGA GCCGGGCGAG CCAGGAGACC
 151 GAGGTGCTGT ACCAGCTGGC TCACACGCTG CCCTTCGCCC GCGGCGTCAG
 201 CGCCCACCTG GACAAGGCCT CTATCATGCG CCTCACCATC AGCTACCTGC
 251 GCATGCACCG CCTCTGCGCC GCAGGGGAGT GGAACCAGGT GGGAGCAGGG
 301 GGAGAACCAC TGGATGCCTG CTACCTGAAG GCCCTGGAGG GCTTCGTCAT
 351 GGTGCTCACC GCCGAGGGAG ACATGGCTTA CCTGTCGGAG AATGTCAGCA
 401 AACACCTGGG CCTCAGTCAG CTGGAGCTCA TTGGACACAG CATCTTTGAT
 451 TTCATCCACC CCTGTGACCA AGAGGAGCTT CAGGACGCCC TGACCCCCCA
 501 GCAGACCCTG TCCAGGAGGA AGGTGGAGGC CCCCACGGAG CGGTGCTTCT
 551 CCTTGCGCAT GAAGAGTACG CTCACCAGCC GCGGGCGCAC CCTCAACCTC
 601 AAGGCGGCCA CCTGGAAGGT GCTGAACTGC TCTGGACATA TGAGGGCCTA
 651 CAAGCCACCT GCGCAGACTT CTCCAGCTGG GAGCCCTGAC TCAGAGCCCC
 701 CGCTGCAGTG CCTGGTGCTC ATCTGCGAAG CCATCCCCCA CCCAGGCAGC
 751 CTGGAGCCCC CACTGGGCCG AGGGGCCTTC CTCAGCCGCC ACAGCCTGGA
 801 CATGAAGTTC ACCTACTGTG ACGACAGGAT TGCAGAAGTG GCTGGCTATA
 851 GTCCCGATGA CCTGATCGGC TGTTCCGCCT ACGAGTACAT CCACGCGCTG
 901 GACTCCGACG CGGTCAGCAA GAGCATCCAC ACCTTGCTGA GCAAGGGCCA
 951 GGCAGTAACA GGGCAGTATC GCTTCCTGGC CCGGAGTGGT GGCTACCTGT
1001 GGACCCAGAC CCAGGCCACA GTGGTGTCAG GGGGACGGGG CCCCCAGTCG
1051 GAGAGTATCG TCTGTGTCCA TTTTTTAATC AGCCAGGTGG AAGAGACCGG
1101 AGTGGTGCTG TCCCTGGAGC AAACGGAGCA ACACTCTCGC AGACCCATTC
1151 AGCGGGGCGC CCCCTCTCAG AAGGACACCC CTAACCCTGG GGACGACCTT
1201 GACACCCCTG GCCCCCGGAT CCTTGCCTTC CTGCACCCGC CTTCCCTGAG
1251 CGAGGCTGCC CTGGCGGCTG ACCCCCGCCG TTTCTGCAGC CCTGACCTCC
1301 GTCGCCTCCT GGGACCCATC CTGGATGGGG CTTCAGTAGC AGCCACTCCC
1351 AGCACCCCGC TGGCCACACG GCACCCCCAA AGTCCTCTTT CGGCTGATCT
1401 CCCAGATGAA CTACCTGTGG GCACCGAGAA TGTGCACAGA CTCTTCACCT
1451 CCGGGAAAGA CACTGAGGCA GTGGAGACAG ATTTAGATAT AGCTCAGGAT
1501 GCTGATGCTC TGGATTTGGA GATGCTGGCC CCCTACATCT CCATGGATGA
1551 TGACTTCCAG CTCAACGCCA GCGAGCAGCT ACCCAGGGCC TACCACAGAC
1601 CTCTGGGGGC TGTCCCCCGG CCCCGTGCTC GGAGCTTCCA TGGCCTGTCA
1651 CCTCCAGCCC TTGAGCCCTC CCTGCTACCC CGCTGGGGGA GTGACCCCCG
1701 GCTGAGCTGC TCCAGCCCTT CCAGAGGGGA CCCCTCAGCA TCCTCTCCCA
1751 TGGCTGGGGC TCGGAAGAGG ACCCTGGCCC AGAGCTCAGA GGACGAGGAC
1801 GAGGGAGTGG AGCTGCTGGG AGTGAGACCT CCCAAAAGGT CCCCCAGCCC
1851 AGAACACGAA AACTTTCTGC TCTTTCCTCT CAGCCTGAGT TTCCTTCTGA
1901 CAGGAGGACC AGCCCCAGGG AGCCTGCAGG ACCCCACTGA ACTTACCCAA
1951 TTCCTTCTTT CAGTCTTAAG TTTTCCCATT CTAGACCCCT ACCCTCTAGG
2001 CTGTGCTGCT CCTGGACTTC ATGCCTCTCC ATTCTCATTG CCTACAATCT
2051 CTGTGCCCCA GAACCCCCTC CACTtCCCAC CCCAGCCCTC CAGACATGCA
2101 CTTACCTTGA CTTTACCCCA CATGTTTGGG GCACCTGGGG CTCCCTCACC
```

```
2151 CCTTGGGTGG TTTGCAATCT GAAGACTTCT CCAGCCACAC AGGCACATGC
2201 ACAGGCACGG TGCTGTCTGC ATATTGCCAG GTGGGGAGAG AAGCCAGGAC
2251 CCCTCAGCTG TCTGCCACCA TCTATGTGCC TCCCTTACCC CCCAGCTTTC
2301 TTTCTACAGA TGGTGCTACT CTTGGTCTCC CACAGGAAAA GGCCTCCCCC
2351 CTTCTTAGCC CCATTTACCC CGTTTGTGGA AGGCACTGCT CGCTCTGTTT
2401 TGTCAGAGAG TGGCCTATCC AGATTGGTGC TATGGGGGGG TCTGACCCCT
2451 CCCTCCTCCC TCTGGAGGTG ATGTGGGCCC TCAATGGAGG GAATTGTGCT
2501 GGGCTAGGGA AAGGGGAGGG ACTAGACTGG CCACACTGGC TCTGAAACTC
2551 ACCAATCTCT ATACACCATA AAGACCTCAC CTTGGTAGGC ACCAG
```

Fig. 16: SEQ ID NO. 10: nucleotide sequence of human HIF3alpha splice variant 1 coding sequence

Length: 1353 bp

```
   1  ATGCGGCCCG CAGCCGGCGC AGCCAGGAGA CCGAGGTGCT GTACCAGCTG
  51  GCTCACACGC TGCCCTTCGC CCGCGGCGTC AGCGCCCACC TGGACAAGGC
 101  CTCTATCATG CGCCTCACCA TCAGCTACCT GCGCATGCAC CGCCTCTGCG
 151  CCGCAGCTGG AGCTCATTGG ACACAGCATC TTTGATTTCA TCCACCCCTG
 201  TGACCAAGAG GAGCTTCAGG ACGCCCTGAC CCCCCAGCAG ACCCTGTCCA
 251  GGAGGAAGGT GGAGGCCCCC ACGGAGCGGT GCTTCTCCTT GCGCATGAAG
 301  AGTACACTCA CCAGCCGCGG GCGCACCCTC AACCTCAAGG CGGCCACCTG
 351  GAAGGTGCTG AACTGCTCTG GACATATGAG GGCCTACAAG CCACCTGCGC
 401  AGACTTCTCC AGCTGGGAGC CCTGACTCAG AGCCCCCGCT GCAGTGCCTG
 451  GTGCTCATCT GCGAAGCCAT CCCCCACCCA GGCAGCCTGG AGCCCCCACT
 501  GGGCCGAGGG GCCTTCCTCA GCCGCCACAG CCTGGACATG AAGTTCACCT
 551  ACTGTGACGA CAGGATTGCA GAAGTGGCTG GCTATAGTCC CGATGACCTG
 601  ATCGGCTGTT CCGCCTACGA GTACATCCAC GCGCTGGACT CCGATGCGGT
 651  CAGCAAGAGC ATCCACACCT TGCTGAGCAA GGGCCAGGCA GTAACAGGGC
 701  AGTATCGCTT CCTGGCCCGG AGTGGTGGCT ACCTGTGGAC CCAGACCCAG
 751  GCCACAGTGG TGTCAGGGGG ACGGGGCCCC CAGTCGGAGA GTATCGTCTG
 801  TGTCCATTTT TTAATCAGCC AGGTGGAAGA GACCGGAGTG GTGCTGTCCC
 851  TGGAGCAAAC GGAGCAACAC TCTCGCAGAC CCATTCAGCG GGGCGCCCCC
 901  TCTCAGAAGG ACACCCCTAA CCCTGGGGAC AGCCTTGACA CCCCTGGCCC
 951  CCGGATCCTT GCCTTCCTGC ACCCGCCTTC CCTGAGCGAG GCTGCCCTGG
1001  CCGCTGACCC CCGCCGTTTC TGCAGCCCTG ACCTCCGTCG CCTCCTGGGA
1051  CCCATCCTGG ATGGGGCTTC AGTAGCAGCC ACTCCCAGCA CCCCGCTGGC
1101  CACACGGCAC CCCCAAAGTC CTCTTTCGGC TGATCTCCCA GATGAACTAC
1151  CTGTGGGCAC CGAGAATGTG CACAGACTCT TCACCTCCGG GAAAGACACT
1201  GAGGCAGTGG AGACAGATTT AGATATAGCT CAGGACCCCA GCACCCCACT
1251  CCTGAACCTG AATGAGCCCC TGGGTTTTCA CTTTGTCACC CAGTCTGGAG
1301  TGCAGTGGCA CAAACACAGC TCACCGCAGC CTCGACCTCC TGGGCTCAAG
1351  TGA
```

Fig. 17: SEQ ID NO. 11: nucleotide sequence of human HIF3alpha splice variant 2 coding sequence

Length: 1029 bp

```
   1  ATGGCGCTGG GGCTGCAGCG CGCAAGGTCG ACCACGGAGC TGCGCAAGGA
  51  AAAGTCCCGG GATGCGGCCC GCAGCCGGCG CAGCCAGGAG ACCGAGGTGC
 101  TGTACCAGCT GGCTCACACG CTGCCCTTCG CCCGCGGCGT CAGCGCCCAC
 151  CTGGACAAGG CCTCTATCAT GCGCCTCACC ATCAGCTACC TGCGCATGCA
 201  CCGCCTCTGC GCCGCAGGGG AGTGGAACCA GGTGGGAGCA GGGGAGAAC
 251  CACTGGATGC CTGCTACCTG AAGGCCCTGG AGGGCTTCGT CATGGTGCTC
 301  ACCGCCGAGG GAGACATGGC TTACCTGTCG GAGAATGTCA GCAAACACCT
 351  GGGCCTCAGT CAGCTGGAGC TCATTGGACA CAGCATCTTT GATTTCATCC
 401  ACCCCTGTGA CCAAGAGGAG CTTCAGGACG CCCTGACCCC CCAGCAGACC
 451  CTGTCCAGGA GGAAGGTGGA GGCCCCCACG GAGCGGTGCT TCTCCTTGCG
 501  CATGAAGAGT ACGCTCACCA GCCGCGGGCG CACCCTCAAC CTCAAGGCGG
 551  CCACCTGGAA GGTGCTGAAC TGCTCTGGAC ATATGAGGGC CTACAAGCCA
 601  CCTGCGCAGA CTTCTCCAGC TGGGAGCCCT GACTCAGAGC CCCCGCTGCA
 651  GTGCCTGGTG CTCATCTGCG AAGCCATCCC CCACCCAGGC AGCCTGGAGC
 701  CCCCACTGGG CCGAGGGGCC TTCCTCAGCC GCCACAGCCT GGACATGAAG
 751  TTCACCTACT GTGACGACAG GATTGCAGAA GTGGCTGGCT[N]ATAGTCCGA
 801  TGACCTGATC GGCTGTTCCG CCTACGAGTA CATCCACGCG CTGGACTCCG
 851  ACGCGGTCAG CAAGAGCATC CACACCTTGC TGAGCAAGGG CCAGGCAGTA
 901  ACAGGGCAGT ATCGCTTCCT GGCCCGGAGT GGTGGCTACC TGTGGACCCA
 951  GACCCAGGCC ACAGTGGTGT CAGGGGGACG GGGCCCCCAG TCGGAGAGTA
1001  TCGTCTGTGT CCATTTTTTA ATCAGGTAA
```

Fig. 18: SEQ ID NO. 12: nucleotide sequence of human HIF3alpha splice variant 3 coding sequence

Length: 1899 bp

```
   1 ATGGCGCTGG GGCTGCAGCG CGCAAGGTCG ACCACGGAGC TGCGCAAGGA
  51 AAAGTCCCGG GATGCGGCCC GCAGCCGGCG CAGCCAGGAG ACCGAGGTGC
 101 TGTACCAGCT GGCTCACACG CTGCCCTTCG CCCGCGGCGT CAGCGCCCAC
 151 CTGGACAAGG CCTCTATCAT GCGCCTCACC ATCAGCTACC TGCGCATGCA
 201 CCGCCTCTGC GCCGCAGGGG AGTGGAACCA GGTGGGAGCA GGGGAGAAC
 251 CACTGGATGC CTGCTACCTG AAGGCCCTGG AGGGCTTCGT CATGGTGCTC
 301 ACCGCCGAGG GAGACATGGC TTACCTGTCG GAGAATGTCA GCAAACACCT
 351 GGGCCTCAGT CAGCTGGAGC TCATTGGACA CAGCATCTTT GATTTCATCC
 401 ACCCCTGTGA CCAAGAGGAG CTTCAGGACG CCCTGACCCC CCAGCAGACC
 451 CTGTCCAGGA GGAAGGTGGA GGCCCCCACG GAGCGGTGCT TCTCCTTGCG
 501 CATGAAGAGT ACGCTCACCA GCCGCGGGCG CACCCTCAAC CTCAAGGCGG
 551 CCACCTGGAA GGTGCTGAAC TGCTCTGGAC ATATGAGGGC CTACAAGCCA
 601 CCTGCGCAGA CTTCTCCAGC TGGGAGCCCT GACTCAGAGC CCCCGCTGCA
 651 GTGCCTGGTG CTCATCTGCG AAGCCATCCC CCACCCAGGC AGCCTGGAGC
 701 CCCCACTGGG CCGAGGGGCC TTCCTCAGCC GCCACAGCCT GGACATGAAG
 751 TTCACCTACT GTGACGACAG GATTGCAGAA GTGGCTGGCT ATAGTCCCGA
 801 TGACCTGATC GGCTGTTCCG CCTACGAGTA CATCCACGCG CTGGACTCCG
 851 ACGCGGTCAG CAAGAGCATC CACACCTTGC TGAGCAAGGG CCAGGCAGTA
 901 ACAGGGCAGT ATCGCTTCCT GGCCCGGAGT GGTGGCTACC TGTGGACCCA
 951 GACCCAGGCC ACAGTGGTGT CAGGGGGACG GGGCCCCCAG TCGGAGAGTA
1001 TCGTCTGTGT CCATTTTTTA ATCAGCCAGG TGGAAGAGAC CGGAGTGGTG
1051 CTGTCCCTGG AGCAAACGGA GCAACACTCT CGCAGACCCA TTCAGCGGGG
1101 CGCCCCCTCT CAGAAGGACA CCCCTAACCC TGGGGACAGC CTTGACACCC
1151 CTGGCCCCCG GATCCTTGCC TTCCTGCACC CGCCTTCCCT GAGCGAGGCT
1201 GCCCTGGCCG CTGACCCCCG CCGTTTCTGC AGCCCTGACC TCCGTCGCCT
1251 CCTGGGACCC ATCCTGGATG GGGCTTCAGT AGCAGCCACT CCCAGCACCC
1301 CGCTGGCCAC ACGGCACCCC CAAAGTCCTC TTTCGGCTGA TCTCCCAGAT
1351 GAACTACCTG TGGGCACCGA GAATGTGCAC AGACTCTTCA CCTCCGGGAA
1401 AGACACTGAG GCAGTGGAGA CAGATTTAGA TATAGCTCAG GATGCTGATG
1451 CTCTGGATTT GGAGATGCTG GCCCCCTACA TCTCCATGGA TGATGACTTC
1501 CAGCTCAACG CCAGCGAGCA GCTACCCAGG GCCTACCACA GACCTCTGGG
1551 GGCTGTCCCC CGGCCCCGTG CTGGAGCTT CCATGGCCTG TCACCTCCAG
1601 CCCTTGAGCC CTCCCTGCTA CCCCGCTGGG GGAGTGACCC CCGGCTGAGC
1651 TGCTCCAGCC CTTCCAGAGG GGACCCCTCA GCATCCTCTC CCATGGCTGG
1701 GGCTCGGAAG AGGACCCTGG CCCAGAGCTC AGAGGACGAG GACGAGGGAG
1751 TGGAGCTGCT GGGAGTGAGA CCTCCCAAAA GGTCCCCCAG CCCAGAACAC
1801 GAAAACTTTC TGCTCTTTCC TCTCAGCCTG GTGTGTTGGG GGATTAATGG
1851 GATTCTCTGG CCCTCATTAC CTAGCTGGCT TAAACCTACT GTTTTATAG
```

Fig. 19: SEQ ID NO. 13:
nucleotide sequence of human HIF3alpha splice variant 5 coding sequence

Length: 1947 bp

```
   1  ATGCGCCTCA CCATCAGCTA CCTGCGCATG CACCGCCTCT GCGCCGCAGG
  51  GGAGTGGAAC CAGGTGGGAG CAGGGGGAGA ACCACTGGAT GCCTGCTACC
 101  TGAAGGCCCT GGAGGGCTTC GTCATGGTGC TCACCGCCGA GGGAGACATG
 151  GCTTACCTGT CGGAGAATGT CAGCAAACAC CTGGGCCTCA GTCAGCTGGA
 201  GCTCATTGGA CACAGCATCT TTGATTTCAT CCACCCCTGT GACCAAGAGG
 251  AGCTTCAGGA CGCCCTGACC CCCCAGCAGA CCCTGTCCAG GAGGAAGGTG
 301  GAGGCCCCCA CGGAGCGGTG CTTCTCCTTG CGCATGAAGA GTACGCTCAC
 351  CAGCCGCGGG CGCACCCTCA ACCTCAAGGC GGCCACCTGG AAGGTGCTGA
 401  ACTGCTCTGG ACATATGAGG GCCTACAAGC CACCTGCGCA GACTTCTCCA
 451  GCTGGGAGCC CTGACTCAGA GCCCCGCTG CAGTGCCTGG TGCTCATCTG
 501  CGAAGCCATC CCCCACCCAG GCAGCCTGGA GCCCCCACTG GGCCGAGGGG
 551  CCTTCCTCAG CCGCCACAGC CTGGACATGA AGTTCACCTA CTGTGACGAC
 601  AGGATTGCAG AAGTGGCTGG CTATAGTCCC GATGACCTGA TCGGCTGTTC
 651  CGCCTACGAG TACATCCACG CGCTGGACTC CGACGCGGTC AGCAAGAGCA
 701  TCCACACCTT GCTGAGCAAG GGCCAGGCAG TAACAGGGCA GTATCGCTTC
 751  CTGGCCCGGA GTGGTGGCTA CCTGTGGACC CAGACCCAGG CCACAGTGGT
 801  GTCCAGGGGGA CGGGGCCCCC AGTCGGAGAG TATCGTCTGT GTCCATTTTT
 851  TAATCAGCCA GGTGGAAGAG ACCGGAGTGG TGCTGTCCCT GGAGCAAACG
 901  GAGCAACACT CTCGCAGACC CATTCAGCGG GGCGCCCCCT CTCAGAAGGA
 951  CACCCCTAAC CCTGGGGACA GCCTTGACAC CCCTGGCCCC CGGATCCTTG
1001  CCTTCCTGCA CCCGCCTTCC CTGAGCGAGG CTGCCCTGGC CGCTGACCCC
1051  CGCCGTTTCT GCAGCCCTGA CCTCCGTCGC CTCCTGGGAC CCATCCTGGA
1101  TGGGGCTTCA GTAGCAGCCA CTCCCAGCAC CCCGCTGGCC ACACGGCACC
1151  CCCAAAGTCC TCTTTCGGCT GATCTCCCAG ATGAACTACC TGTGGGCACC
1201  GAGAATGTGC ACAGACTCTT CACCTCCGGG AAAGACACTG AGGCAGTGGA
1251  GACAGATTTA GATATAGCTC AGGATGCTGA TGCTCTGGAT TTGGAGATGC
1301  TGGCCCCCTA CATCTCCATG GATGATGACT TCCAGCTCAA CGCCAGCGAG
1351  CAGCTACCCA GGGCCTACCA CAGACCTCTG GGGGCTGTCC CCCGGCCCCG
1401  TGCTCGGAGC TTCCATGGCC TGTCACCTCC AGCCCTTGAG CCCTCCCTGC
1451  TACCCCGCTG GGGGAGTGAC CCCCGGCTGA GCTGCTCCAG CCCTTCCAGA
1501  GGGGACCCCT CAGCATCCTC TCCCATGGCT GGGGCTCGGA AGAGGACCCT
1551  GGCCCAGAGC TCAGAGGACG AGGACGAGGG AGTGGAGCTG CTGGGAGTGA
1601  GACCTCCCAA AAGGTCCCCC AGCCCAGAAC ACGAAAACTT TCTGCTCTTT
1651  CCTCTCAGCC TGAGTTTCCT TCTGACAGGA GGACCAGCCC CAGGGAGCCT
1701  GCAGGACCCC ACTGAACTTA CCCAATTCCT TCTTTCAGTC TTAAGTTTTC
1751  CCATTCTAGA CCCCTACCCT CTAGGCTGTG CTGCTCCTGG ACTTCATGCC
1801  TCTCCATTCT CATTGCCTAC AATCTCTGTG CCCCAGAACC CCCTCCACTt
1851  CCCACCCCAG CCCTCCAGAC ATGCACTTAC CTTGACTTTA CCCCACATGT
1901  TTGGGGCACC TGGGGCTCCC TCACCCCTTG GGTGGTTTGC AATCTGA
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Fig. 20: Schematic assembly of SEQ ID NO. 6, with human ESTs and human mRNA (AK021421)

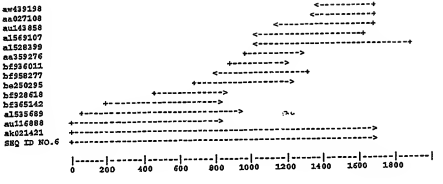


Fig. 21: Schematic assembly of SEQ ID NO. 7, with human ESTs and human mRNA (BCO26308)

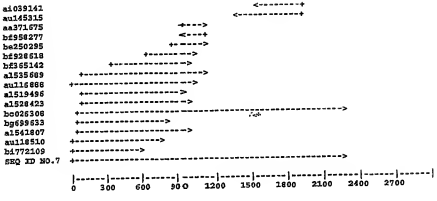


Fig. 22: Schematic assembly of SEQ ID NO. 8, with human ESTs and human mRNAs (AK021421, AK021653, AK027725, AB054067, AF463492)

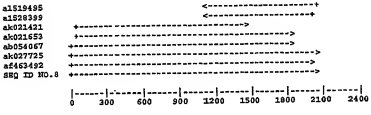


Fig. 23: Schematic assembly of SEQ ID NO. 9, with human ESTs and human mRNA (AK021653)

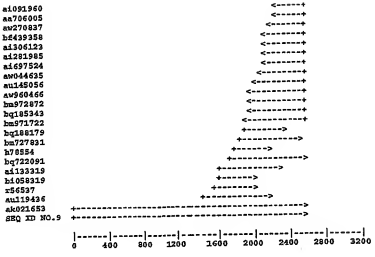


Fig. 24: Identification of differentially expressed genes by microarray hybridization

Biochip	Type of probe	Used probes (Cy5-/Cy3-labeled)	Ratio fluorescence intensity: temporal / frontal cortex
1	C	$PT_{SSH(2)}$ / $PF_{SSH(1)}$	1.40
2	B	PT / PF	1.19
3	A	PT / PF	0.65
4	C	$PT_{SSH(4)}$ / $CT_{SSH(3)}$	0.65
7	B	CF / PF	0.95

Fig. 25 :

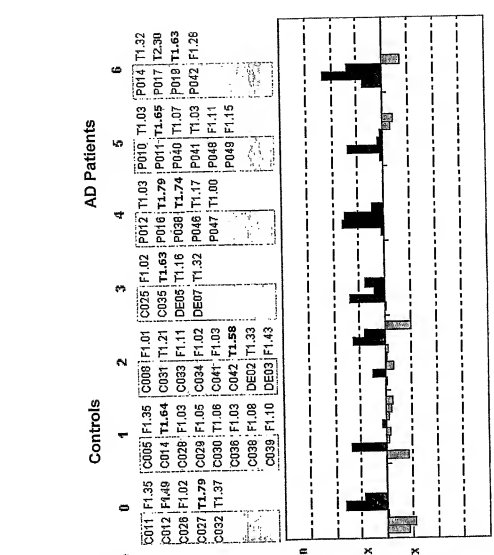

Samples
Controls
AD Patients
Braak stage
0
1
2
3
4
5
6
C011 F1.35
C012 F4.49
C026 F1.02
C027 T1.79
C032 T1.37
C005 F1.35
C014 T1.64
C028 F1.03
C029 F1.05
C030 T1.08
C036 F1.03
C038 F1.08
C039 F1.10
C008 F1.01
C031 T1.21
C033 F1.11
C034 F1.02
C041 F1.03
C042 T1.58
DE02 T1.33
DE03 F1.43
C025 F1.02
C035 T1.63
DE05 T1.16
DE07 T1.32
P012 T1.03
P016 T1.79
P038 T1.74
P046 T1.17
P047 T1.00
P010 T1.03
P011 T1.65
P040 T1.07
P041 T1.03
P048 F1.11
P049 F1.15
P014 T1.32
P017 T2.30
P019 T1.63
P042 F1.26
Temporal
Frontal
fold regulation
3 x
2 x
1.44 x
1.44 x
2 x
3 x
natural logarithmic scale
Braak stage

Fig. 26 :

sample	Δ (Fold) (hippocampus / frontal cortex)
control C005	0.65
control C008	1.13
control C004	1.55
patient P012	1.68
patient P016	1.13
patient P010	0.70
patient P011	1.59
patient P014	1.30
patient P019	2.46

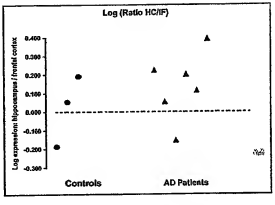


Fig. 27 :

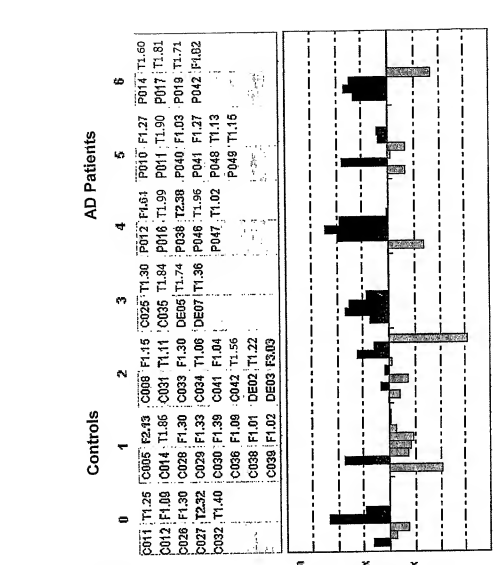

Samples
Controls
AD Patients
Braak stage
0
1
2
3
4
5
6
C011 T1.25
C012 F1.08
C026 F1.30
C027 T2.32
C032 T1.40
C005 F2.43
C014 T1.86
C028 F1.30
C029 F1.33
C030 F1.39
C036 F1.08
C038 F1.01
C039 F1.02
C006 F1.15
C031 T1.11
C033 F1.30
C034 T1.06
C041 F1.04
C042 T1.56
DE02 T1.22
DE03 F3.03
C025 T1.30
C035 T1.84
DE05 T1.74
DE07 T1.36
P012 F1.61
P016 T1.99
P038 T2.58
P046 T1.96
P047 T1.02
P010 F1.27
P011 T1.90
P040 F1.03
P041 F1.27
P048 T1.13
P049 T1.15
P014 T1.60
P017 T1.81
P019 T1.71
P042 F1.02
Temporal
fold regulation
3 x
2 x
1.44 x
natural logarithmic scale
1.44 x
2 x
3 x
Frontal
Braak stage
0
1
2
3
4
5
6

Fig. 28 :

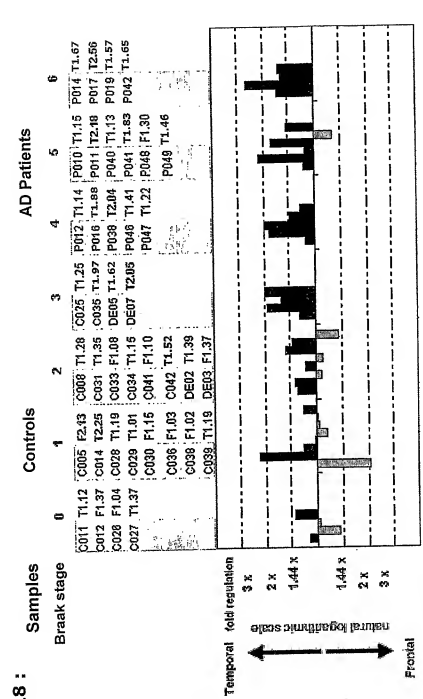

Samples
Controls
AD Patients
Braak stage
0
1
2
3
4
5
6
C011 T1.12
C012 F1.37
C028 F1.04
C027 T1.37
C005 F2.13
C014 T2.25
C029 T1.01
C030 F1.15
C038 F1.03
C036 F1.02
C039 T1.19
C008 T1.28
C031 T1.35
C033 F1.08
C034 T1.15
C041 F1.10
C042 T1.52
DE02 T1.39
DE03 F1.37
C025 T1.25
C035 T1.97
DE05 T1.62
DE07 T2.05
P012 T1.14
P016 T1.88
P038 T2.04
P049 T1.41
P047 T1.22
P010 T1.15
P011 T2.18
P040 T1.13
P041 T1.83
P048 F1.30
P049 T1.46
P014 T1.67
P017 T2.56
P019 T1.57
P042 T1.65
Temporal
Frontal
fold regulation
3 x
2 x
1.44 x
natural logarithmic scale
Braak stage

Fig. 29 :

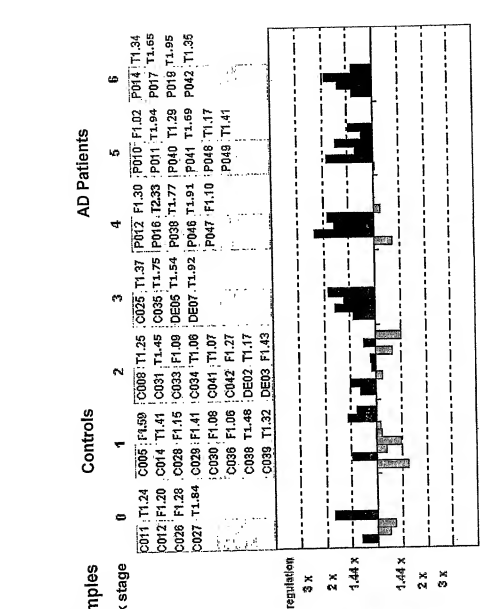
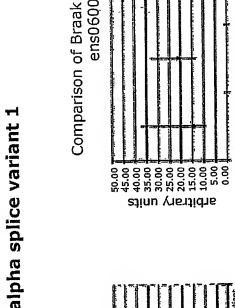
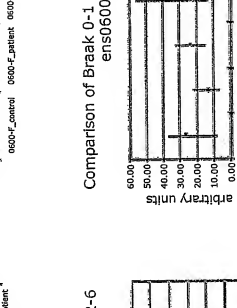
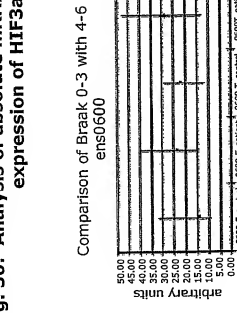

Samples
Controls
AD Patients
Braak stage
0
1
2
3
4
5
6
C011 T1.24
C012 F1.20
C026 F1.28
C027 T1.84
C005 F1.59
C014 T1.41
C028 F1.15
C029 F1.41
C030 F1.08
C036 F1.06
C038 T1.48
C039 T1.32
C008 T1.25
C031 T1.45
C033 F1.09
C034 T1.06
C041 T1.07
C042 F1.27
DE02 T1.17
DE03 F1.43
C025 T1.37
C035 T1.75
DE05 T1.54
DE07 T1.92
P012 F1.30
P016 T2.33
P038 T1.77
P046 T1.91
P047 F1.10
P010 F1.02
P011 T1.94
P040 T1.29
P041 T1.69
P048 T1.17
P049 T1.41
P014 T1.34
P017 T1.65
P018 T1.95
P042 T1.35
Temporal
Frontal
fold regulation
3 x
2 x
1,44 x
natural logarithmic scale
Braak stage

Fig. 30: Analysis of absolute mRNA expression of HIF3alpha splice variant 1







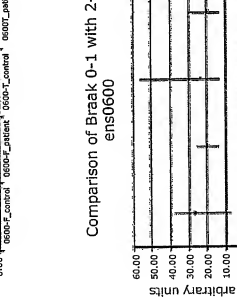


Fig. 31: Analysis of absolute mRNA expression of HIF3alpha splice variant 2

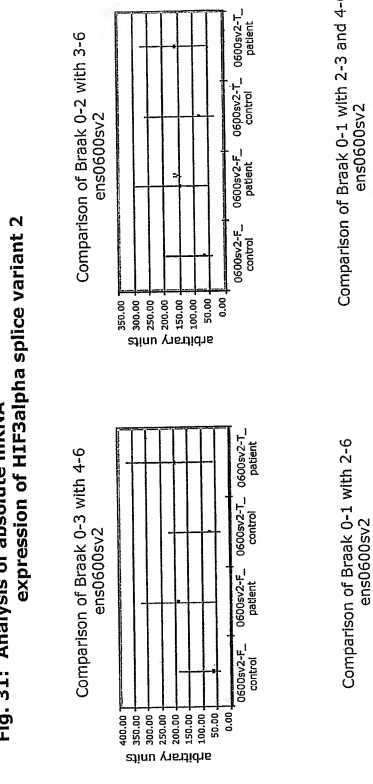


Fig. 32: Analysis of absolute mRNA expression of HIF3alpha splice variant 3

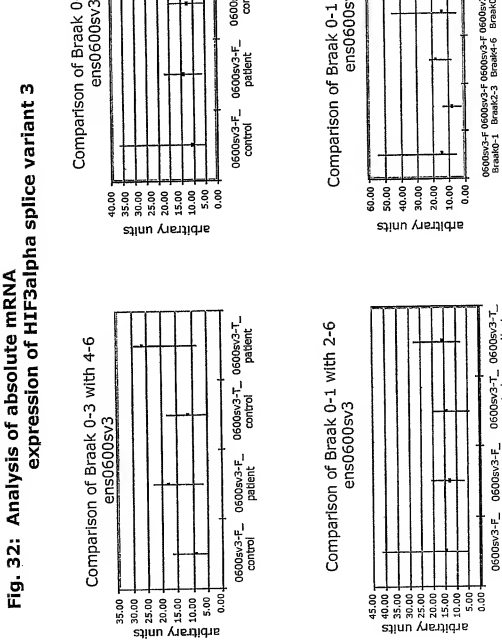
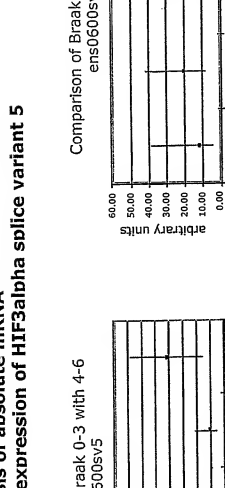
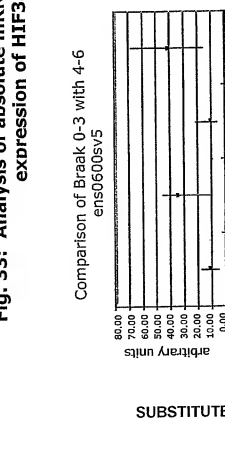
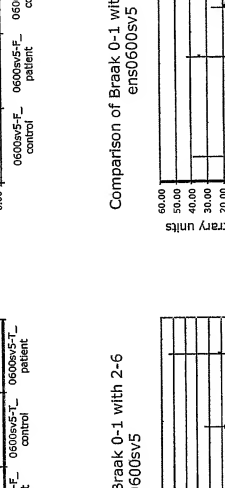


Fig. 33: Analysis of absolute mRNA expression of HIF3alpha splice variant 5







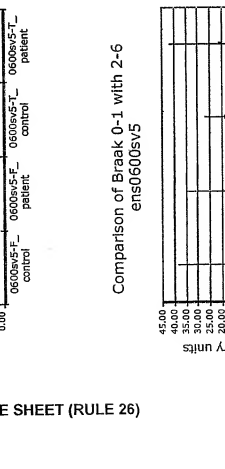


Fig. 34: Western Blot of H4APPsw cell protein extracts labeled with anti-HIF3alpha sv3-myc antibodies

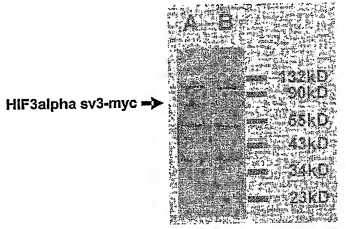


Fig. 35: Immunofluorescence analysis of HIF3alpha sv3 protein in neuroglioma cells

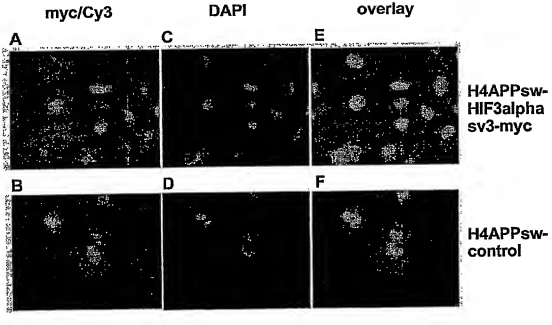


Fig. 36: Images of human brain sections labeled with anti-HIF3a antiserum, cell specific markers and DAPI

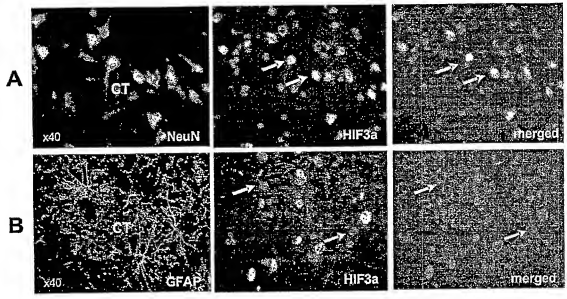


Fig. 37: Images of human brain sections labeled with anti-HIF3a antiserum, cell specific markers and DAPI

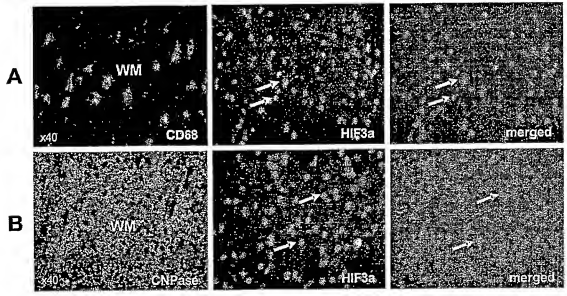


Fig. 38 : Images of human brain sections labeled with anti-HIF3a antiserum, GFAP and DAPI

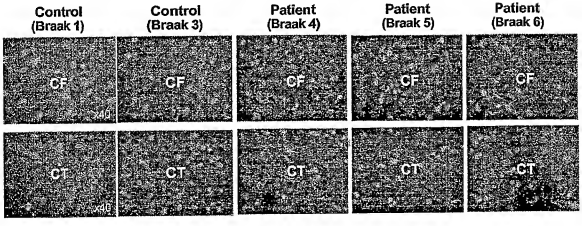


Fig. 39: Expression level of HIF3a sv3 expressing transgenic flies

name	cycle number	mean	stdev	error %	factor (normalization to sv3 cycle number)	mean*factor	difference	expression normalized to housekeeping gene and efficiency of HIF3a-sv3 primer	summary
HIF3a-sv3#3	30.03	30.237	0.2106	0.71265776	1	30.2366567			
HIF3a-sv3#3	30.32								HIF3a-sv3#3 is 2.8 times higher expressed than HIF3a-sv3#4
HIF3a-sv3#3	30.46								
HIF3a-sv3#4	33.96	31.169	0.1778	0.57048745	1.010625536	31.4910977	-1.25442332	-2.847544799	
HIF3a-sv3#4	31.22								
HIF3a-sv3#4	31.30								
HIF3a-sv3#5?	27.84	27.953	0.1069	0.37915643	1.043547468	29.1650401	1.07162656	2.432592288	HIF3a-sv3#5? is 2.4 times higher expressed than HIF3a-sv3#3 and 5.3 times higher than HIF3a-sv3#4
HIF3a-sv3#5?	27.97						-2.32605153	-5.280137098	
HIF3a-sv3#5?	28.05								

E= $10^{(1/slope)}$ slope= -2.806 E=2.27 HIF3a-sv3 primer pair

name	rp49 cycle #	mean	stdev	error %	factor
HIF3a-sv3#3	19.63	19.667	0.0929	0.47268328	1
HIF3a-sv3#3	19.76				
HIF3a-sv3#3	19.58				
HIF3a-sv3#4	19.59	19.459	0.1929	0.99163594	1.010625536
HIF3a-sv3#4	19.23				
HIF3a-sv3#4	19.53				
HIF3a-sv3#5?	18.97	18.840	0.1306	0.69302123	1.043547468
HIF3a-sv3#5?	18.71				
HIF3a-sv3#5?	18.84				

Fig. 40: Nuclear localization of HIF3a sv3 in transgenic Drosophila

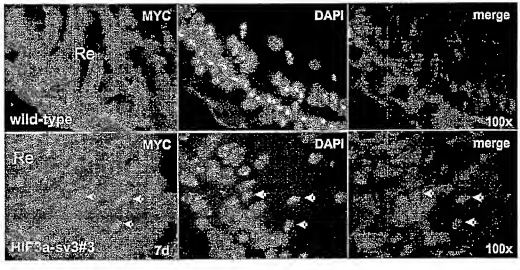


Fig. 41; HIF3a sv3 protein expression in transgenic flies

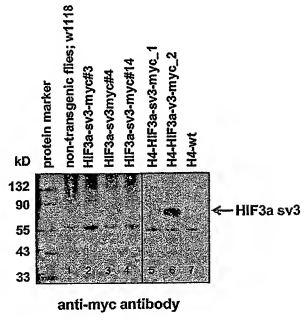


Fig. 42: HIF3a sv3 expression rescues photoreceptor cell degeneration

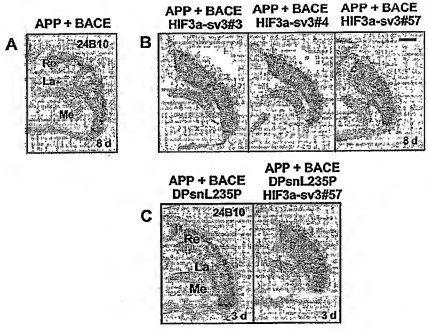


Fig. 43: Abeta level in hAPP/hBACE/HIF3a sv3 protein expressing flies

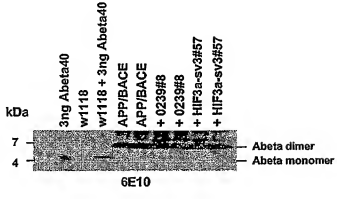


Fig. 44: Abeta plaque deposition in hAPP/hBACE/HIF3a sv3 expressing flies